



Exploring the Learning Engagement and Learning Style among LGBTQ+ Psychology Students

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Abstract

This study investigates the learning engagement and learning styles among LGBTQ+ psychology students at Pamantasan ng Cabuyao. The research is framed by The Learning Pyramid, Engagement Theory of Learning, and Queer Pedagogical Theory to explore the behavioral, emotional, and cognitive aspects of engagement and their relationship with visual, auditory, and kinesthetic learning styles.

A mixed-methods approach was employed, using quantitative surveys (n=152) and qualitative interviews (n=6). Spearman's rho correlation was applied to analyze the relationship between engagement and learning styles, while thematic analysis was used for qualitative data. Results indicate that LGBTQ+ students show moderate to high learning engagement, with a preference for visual and kinesthetic learning methods. Themes emerging from interviews highlighted identity validation, faculty support, and preference for personalized learning as critical factors influencing engagement.

Findings suggest the need for inclusive teaching strategies, faculty training on diversity, and student support systems to enhance engagement. The study recommends further research on the intersectionality of LGBTQ+ identity and academic success.

Keywords: Learning Engagement, Learning Style, LGBTQ+, Psychology Students, Inclusive Education

1. Introduction

In the realm of education, student engagement has garnered significant attention as a pivotal determinant of academic success. Learning engagement involves various emotional, cognitive, and behavioral factors contributing to students' active participation in the learning process. This includes their enthusiasm, curiosity, and willingness to invest time and effort in acquiring knowledge and developing skills. For LGBTQ+ students, their academic journey often coincides with personal identity development and navigating societal attitudes toward their sexual or gender identity. This intersection of academic involvement and individual identity brings unique challenges that can significantly influence their engagement with learning. LGBTQ+ students often encounter prejudice, underrepresentation, and identity-related mental health challenges, which can create barriers to their full engagement in the academic setting (Hanson *et al.*, 2019).

Psychology programs are uniquely positioned to support LGBTQ+ students by addressing issues of identity, mental health, and social inclusion. LGBTQ+ students bring valuable perspectives to the classroom, often shaped by their experiences of navigating marginalization and identity-related challenges. These insights can enrich discussions, contribute to a deeper understanding of human behavior, and promote inclusivity within the discipline. However, psychology programs must examine how well they provide educational and personal support for these students to engage in their academic journey fully.

According to Cardinal (2021) ^[2], schools fostering inclusivity and safety improve LGBTQ+ students' academic performance, attendance, and sense of belonging. A supportive educational environment that promotes inclusivity and belonging is crucial for LGBTQ+ students' engagement. The curriculum should represent LGBTQ+ issues, and faculty and peer networks should offer strong support systems. When students feel a sense of belonging and their identity is acknowledged and respected, their emotional engagement with learning increases, enhancing academic performance and personal growth.

Fostering a positive learning environment that addresses the unique experience of LGBTQ+ students that promotes their success and strengthens the overall academic community by embracing diverse perspectives (Miller, 2023) ^[12].

Psychology programs must acknowledge and address the specific barriers that LGBTQ+ students encounter to ensure their academic success and well-being. By creating an inclusive and supportive learning environment, programs can enhance LGBTQ+ students' engagement, which is crucial for learning and academic achievement. This involves integrating LGBTQ+ issues into the curriculum, fostering supportive faculty and peer networks, and providing safe spaces where students feel valued and accepted. When students see their identities represented and experience a sense of belonging, they are more likely to engage deeply with their studies and persist in their academic journey. These efforts are not only vital for the personal and professional development of LGBTQ+ students but also enrich the psychology discipline by integrating diverse perspectives that contribute to a broader understanding of human behavior and mental health. Inclusivity within psychology education strengthens the field and promotes a more comprehensive and socially aware approach to psychological research and practice.

Methodology

This study employed a mixed-methods approach, integrating quantitative and qualitative techniques to provide a comprehensive understanding of learning engagement and learning styles among LGBTQ+ psychology students. The quantitative phase utilized descriptive statistics to summarize and analyze data, identifying trends and patterns through measures such as mean, median, standard deviation, and range (Dong, 2023) ^[4]. This numerical analysis helped establish generalizable insights into students' engagement levels and preferred learning styles. Following an explanatory sequential design, the qualitative phase was conducted after the quantitative phase to explore the underlying reasons behind observed statistical patterns (Toyon, 2021) ^[17]. Through semi-structured interviews, qualitative data was collected from six LGBTQ+ students, allowing for a more in-depth exploration of their academic experiences. Thematic analysis was applied to identify recurring themes, behaviors, and perceptions, systematically reviewing focus group discussions and interview transcripts to uncover insights related to identity validation, faculty support, and learning preferences (McLeod, 2024) ^[11]. The integration of quantitative and qualitative data enabled triangulation, enhancing the validity and reliability of findings by ensuring that numerical trends were supported by rich contextual insights (George, 2023) ^[6]. While quantitative analysis provided measurable trends and relationships, qualitative research revealed the deeper motivations, challenges, and contextual factors influencing LGBTQ+ students' learning engagement. This mixed-methods strategy allowed the researchers to capture both statistical significance and personal experiences, offering a holistic perspective on how LGBTQ+ students navigate their academic environment. By combining numerical data with lived experiences, the study ensured a well-rounded, evidence-based approach to understanding and improving the learning experiences of LGBTQ+ students. The findings highlight the importance of inclusive educational practices, identity-affirming teaching methods, and supportive faculty-student

interactions in fostering a positive and engaging academic environment for LGBTQ+ learners.

Research Question

This study analyzed how several factors affect third- and fourth-year LGBTQ+ psychology students' learning engagement and learning style. It looked into how academic, social, and personal factors affect motivation and found traits that impact learning, including prejudice, support systems, and self-efficacy. Enhancing instructional strategies and fostering a more welcoming classroom atmosphere for LGBTQ+ students were the objectives. Specifically, the following questions were addressed in the study:

1. What is the level of learning engagement among 3rd and 4th-year psychology students exhibit in terms of:
 - 1.1 Active participation
 - 1.2 Deep involvement
 - 1.3 Intrinsic motivation
2. What is the dominant learning style among 3rd and 4th-year psychology students in terms of:
 - 2.1 Visual
 - 2.2 Auditory
 - 2.3 Kinesthetic
3. Is there a significant relationship between learning style and engagement among psychology students?
4. What themes emerged from the lived experiences of 3rd and 4th-year LGBTQ+ psychology students?
5. Based on the study, what program may be proposed for the learning engagement and learning styles of 3rd- and 4th-year LGBTQ+ Psychology students?

Literature Review

The Educational Value of Learning Engagement Learning engagement plays a critical role in students' academic achievement by involving them emotionally, cognitively, and behaviorally in the learning process. According to Kim *et al.* (2022) ^[9], students with high intrinsic motivation and strong self-regulation tend to be more engaged in their academic tasks, particularly when their career goals are clear. This finding suggests that helping students internalize their academic purpose is essential in promoting deeper engagement. Daumiller *et al.* (2021) ^[3] echoed this by showing that achievement goals, especially learning-oriented ones, enhance engagement among university faculty, suggesting its relevance across educational levels. Romell *et al.* (2022) also found that learner satisfaction in online math classes was strongly linked to design quality and interaction, while An *et al.* (2024) showed that technology acceptance encourages both intrinsic motivation and engagement. These studies collectively indicate that learning engagement is not merely a byproduct of good teaching but a strategic element that educators can influence through intentional design, motivation-building activities, and inclusive practices. By fostering active participation and psychological investment, especially among marginalized students like those in the LGBTQ+ community, institutions can significantly improve both academic success and student well-being. Therefore, understanding and enhancing learning engagement is central to effective education.

Learning Style is the Key to Effective Academics

Recognizing and accommodating students' learning styles significantly enhances academic performance and

engagement. Learning styles—commonly categorized as visual, auditory, and kinesthetic—represent different ways individuals prefer to receive and process information. Khan (2019) found a strong correlation between academic success and learning styles, noting that visual and kinesthetic learners tended to outperform others. This supports the idea that students excel when educational content aligns with their cognitive preferences. Ma (2024) emphasized the importance of adapting instructional methods to suit individual learning preferences, especially in personalized and faith-based learning contexts, to improve understanding and retention. Similarly, Wandah *et al.* (2024) ^[18] observed that auditory learners thrived with lectures, visual learners with videos, and kinesthetic learners through interactive tasks. Their study recommended multimodal strategies to cater to various learners simultaneously. However, Rineks (2021) ^[14] cautioned against rigidly adhering to learning style theory, instead suggesting a balanced approach that considers background, motivation, and learning needs. Despite the debates, the literature consistently supports the benefits of flexible teaching strategies that acknowledge diverse learner profiles. When educators are responsive to these preferences, they create more inclusive classrooms where students feel seen and supported. This adaptability ultimately contributes to better comprehension, motivation, and academic success, especially in diverse student populations.

Inclusivity Within LGBTQ+ University Students

Inclusivity is vital for ensuring academic success, engagement, and psychological well-being among LGBTQ+ university students. Many of these students face challenges such as discrimination, invisibility, and a lack of institutional support, which can hinder their academic progress. Sotardi *et al.* (2021) ^[16] found that LGBTQ+ students experience higher classroom enjoyment and connection when they feel a sense of belonging, even if their general well-being remains lower than that of their peers. Silvia *et al.* (2024) ^[15] further emphasized that living-learning programs designed specifically for LGBTQ+ students offer a sense of safety and community, leading to stronger academic involvement. Fabbro (2020) ^[5] revealed that diversity-focused coursework increases cultural reflection and participation, while Jacobs *et al.* (2024) ^[8] found that LGBTQ+ peer support groups foster belonging and mental health. Programs like Camp Qmunity (Pathak *et al.*, 2024) ^[13] demonstrate how inclusive environments enhance students' confidence and academic motivation. Additionally, Zapletal *et al.* (2023) stressed the need for cultural competence among educators and administrators to create LGBTQ+-affirming spaces. These studies highlight that when LGBTQ+ students are supported through visible representation, inclusive curricula, and safe peer environments, they engage more deeply in their education. Inclusivity is not just beneficial—it is essential for empowering LGBTQ+ students to thrive academically and personally.

Research Locale

This study was conducted at Pamantasan ng Cabuyao, located in Banay-Banay, Cabuyao City, Laguna, Philippines. The university serves as the primary setting for data collection, specifically targeting third- and fourth-year psychology students enrolled in professional courses. The institution was chosen due to its diverse student population and commitment to providing inclusive educational opportunities. Data were

gathered within classrooms, libraries, and other academic facilities where students actively engage in learning activities. The location provided a conducive environment for assessing student engagement and learning styles, ensuring the study's relevance to higher education settings.

Population and Sampling

The researchers selected third- and 4th-year psychology students as participants. To ensure a comprehensive and balanced approach, both stratified random sampling and purposive sampling were employed. Stratified random sampling was used to represent key subgroups by dividing the population into strata based on relevant characteristics and randomly selecting participants from each group, as described by Hayes (2024) ^[7]. This method enhanced the generalizability of the quantitative findings and provided diverse perspectives. For the qualitative component, purposive sampling was utilized, a non-randomized method where participants were intentionally chosen based on predefined criteria, as explained by Dr. Bisht (2024). This approach ensured the inclusion of individuals who could offer valuable insights into the learning engagement experiences of LGBTQ+ psychology students, enriching the study's findings.

Research Participants

This study's respondents were LGBTQ+ psychology students from Pamantasan ng Cabuyao (University of Cabuyao). The research specifically focuses on third and fourth-year psychology students, as they are engaged in professional courses and are more likely to provide insights regarding their learning engagement and learning styles. The researchers believed that they were suitable participants.

Research Instrumentation

To gather data, the researchers utilized adapted survey questionnaires and semi-structured interviews and employed a mixed-methods approach to investigate the learning engagement and learning style among LGBTQ+ 3rd- and 4th-year psychology students. The survey used a closed-ended format with a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), providing a structured framework to assess students' learning engagement and learning style. The adapted questionnaire was a student engagement survey designed to evaluate the participants' involvement and participation in academic activities. The face-to-face survey format ensured both accessibility and convenience for participants while preserving the integrity of the data collection process. Qualitative data were obtained through semi-structured interviews and subsequently analyzed using thematic analysis.

Data Gathering Procedure

The researchers collected data through face-to-face surveys and semi-structured interviews. The surveys were administered directly to 3rd and 4th-year psychology students at Pamantasan ng Cabuyao. The researchers provided clear instructions and ongoing support throughout the survey to ensure clarity and comprehension. Before complete data collection, a pilot test was conducted with a smaller group of students to refine the survey questionnaire, address potential issues, and ensure the instrument's reliability and validity. Additionally, semi-structured interviews were conducted exclusively with LGBTQ+ students to gain deeper insights

into their personal experiences and challenges related to learning engagement and learning style. After data collection, the survey results were analyzed with the assistance of a statistician, while the interview transcripts were analyzed using thematic analysis to identify recurring themes. These findings offered valuable insights into the unique experiences of LGBTQ+ psychology students, helping to inform future strategies and interventions that promote inclusion and engagement within academic environments.

Numerical Value	Verbal Interpretation
5	Strongly Agree
4	Agree
3	Neutral
2	Disagree
1	Strongly Disagree

Ethical consideration

Investigating the degree of learning engagement and learning style among LGBTQ+ psychology students required considering the ethical implications of the Data Privacy Act of 2012 and confidentiality, which mandated that personal information be collected, processed, and stored securely while upholding individuals' right to privacy. Researchers gathered personal insights, educational experiences, and potentially sensitive student participation and identity data. It was vital to protect the secrecy and confidentiality of this information. Students were informed correctly about the data collection process, how it would be used, and who would have access to it. This transparency increased confidence and ensured that participants understood the scope and implications of the study.

Participation in the study was voluntary, and participants could withdraw without penalty. This respected students' independence while ensuring they were not pressured into involvement. Clear communication of the study's voluntary nature and the lack of punishments for non-participation or withdrawal was emphasized. Researchers also took precautions to anonymize the data, successfully protecting participants' identities. This was essential to avoid potential biases or unintended consequences from releasing participants' identities or sensitive data.

Researchers also considered how the study's findings would affect the participants' academic standing and future possibilities. Efforts were made to reduce the risk of changing faculty perceptions or introducing unexpected biases. Individual participants were not identified, nor were their academic or personal lives affected due to published or shared findings. Following these ethical standards and legal requirements, the study was carried out responsibly, with all participants' rights and well-being in mind.

Results and Discussion

Results

This presents the data collected from both the pilot test and the data gathered from the study. The pilot test aimed to evaluate the effectiveness of the research instruments and identify any potential issues before the full-scale study. Following the pilot test, data from the data gathering were collected to examine the relationship between learning engagement and learning styles among psychology students. The data are presented using descriptive statistics, reliability analysis, and correlation analysis, supplemented by tables for better visualization.

Table 1: Learning Engagement Levels

Sub-Variables	Grand Mean	Interpretation
Active Participation	3.50	High
Deep Involvement	3.38	Moderate
Intrinsic Motivation	3.72	High

Findings indicate that LGBTQ+ students are highly engaged in group discussions and collaborative learning (Mean = 4.00), as these methods provide a supportive and inclusive environment. Interactive and project-based learning further enhances engagement by encouraging creativity and self-expression. However, seeking academic help from faculty was a challenge (Mean = 2.88), with students citing fear of bias or discomfort in approaching professors. Many relied on peers or self-directed learning instead. This highlights the need for faculty inclusivity training, mentorship programs, and structured office hours to encourage academic help-seeking, ultimately fostering a more supportive and engaging learning environment for LGBTQ+ students.

Table 2: Dominant Learning Styles

Sub-Variables	Grand Mean	Interpretation
Visual	3.85	High
Auditory	3.42	Moderate
Kinesthetic	3.66	High

LGBTQ+ students preferred visual and kinesthetic learning methods, favoring videos, diagrams, and hands-on activities over traditional lectures. Many students found visual aids, such as infographics, mind maps, and multimedia presentations, to be more effective in retaining information compared to purely text-based materials. Kinesthetic learning activities, such as role-playing, experiments, and interactive projects, were also highly valued, as they allowed students to engage actively with the content. This preference suggests that lecture-heavy instruction may be less effective for LGBTQ+ students, highlighting the need for diverse and interactive teaching strategies that cater to different learning styles and enhance engagement.

Table 3: Correlation Between Learning Engagement and Learning Styles

Level of learning engagement	Level of learning style	Correlation coefficient	P-value	Interpretation
Active Participation	Auditory	0.43	<0.001	Low Positive Correlation
	Visual	0.32	<0.001	Low Positive Correlation
	Kinesthetic	0.39	<0.001	Low Positive Correlation
Deep Involvement	Auditory	0.40	<0.001	Low Positive Correlation
	Visual	0.42	<0.001	Low Positive Correlation
	Kinesthetic	0.42	<0.001	Low Positive Correlation
Intrinsic Motivation	Auditory	0.42	<0.001	Low Positive Correlation
	Visual	0.42	<0.001	Low Positive Correlation
	Kinesthetic	0.48	<0.001	Low Positive Correlation

A significant relationship ($p < 0.001$) was found between learning engagement and learning styles, indicating that students with higher engagement were more likely to prefer active, hands-on learning approaches. This finding supports The Learning Pyramid Theory, which emphasizes that interactive methods, such as practice, discussion, and teaching others, lead to higher retention rates compared to passive learning. Students who engaged more frequently in experiential activities, group collaborations, and practical applications demonstrated greater academic involvement and motivation. These results highlight the importance of incorporating dynamic, student-centered teaching strategies to enhance engagement and optimize learning outcomes for LGBTQ+ psychology students.

A moderate positive correlation was found between visual and kinesthetic learning styles and learning engagement, suggesting that students who are more engaged tend to prefer interactive, hands-on, and visually supported learning methods. These students may be more likely to actively participate in activities like group work, practical demonstrations, and visually rich materials, which promote

deeper learning and greater retention. A low positive correlation was observed with auditory learning, indicating that while lecture-based methods contribute to engagement, they are less effective compared to visual and kinesthetic approaches. This highlights the potential limitations of traditional lecture formats in fostering student engagement, as they may not fully cater to the diverse needs of students. The results also suggest that educators should consider integrating diverse teaching methods, such as multimedia tools, real-world applications, and interactive technologies, to better align with students' learning preferences. Incorporating strategies like flipped classrooms, where students engage with content before class, and problem-based learning, which emphasizes practical application, can also help increase student participation and motivation. Moreover, fostering a collaborative learning environment where students can work together to explore concepts further enhances engagement and the learning experience. By adopting these varied approaches, educators can create more dynamic and inclusive classrooms that not only enhance learning outcomes but also encourage lifelong learning skills.

Table 4: Presentation of Themes

Superordinate themes	Subthemes
Exploring Identity Through Academic Experiences	<ul style="list-style-type: none">• Self-Awareness Through Psychology Subjects• Studying Human Behavior and Emotions
Impact of LGBTQ+ Identity on Academic Engagement	<ul style="list-style-type: none">• Confidence Through Representation Opportunities• Passion and Joy in Academic Involvement
Balancing Personal Identity and Academic Demands for Effective Learning	<ul style="list-style-type: none">• Effective Time Management is key• Self-awareness and Coping
The Role of Support Systems in Overcoming Challenges	<ul style="list-style-type: none">• Peer and Professor Support• Family Encouragement
Shaping LGBTQ+ Student Engagement: The Role of Faculty and Peer Relationships	<ul style="list-style-type: none">• Faculty Encouragement and Mentorship• Peer support and belonging
Coping with academic challenges through support and self-care	<ul style="list-style-type: none">• Support Networks and Resilience• Self-care Practices
Fostering Inclusive Connections	<ul style="list-style-type: none">• Building Allyship Through Education• Creating a sense of Community
Addressing Inter sectionality in the Psychology Curriculum	<ul style="list-style-type: none">• Representation in Lesson• Creating awareness of inter sectionality
Academic Policy Changes Supporting LGBTQ+ Students	<ul style="list-style-type: none">• Safe and inclusive policies• Representation in faculty and curriculum

A strong sense of belonging and inclusion emerged as a crucial factor in their academic experience. Many students highlighted the significance of LGBTQ+ representation in course materials, not just as an occasional topic but as an essential aspect of psychological studies. Seeing their identities reflected in academic discussions fostered emotional safety, allowing them to engage more deeply with their coursework. According to Poteat (2024), inclusive environments encouraged students to actively participate in discussions, share personal insights, and develop a stronger sense of confidence in their academic abilities. In contrast, a lack of representation or inclusive policies often resulted in feelings of isolation, discouraging engagement and limiting their academic potential.

Resilience and identity also played a significant role in their academic experiences. Many students encountered challenges such as discrimination, micro aggressions, or personal struggles related to self-acceptance. However, these adversities often became a source of strength, motivating

them to persist in their studies. Their identities were not just personal aspects of their lives but also driving forces in their academic pursuits, particularly in areas related to LGBTQ+ mental health and advocacy. Their resilience translated into a strong commitment to learning, as they sought to contribute meaningfully to the field of psychology while advocating for inclusivity and representation.

In conclusion, the study underscores how identity, community, and institutional support shape the academic experiences of LGBTQ+ psychology students. When universities prioritize inclusivity, representation, and student well-being, they create an environment where students not only excel academically but also develop confidence, resilience, and a sense of belonging that extends beyond the classroom. By fostering these affirming spaces, institutions can empower LGBTQ+ students to thrive and make meaningful contributions to both academia and society.

Discussion

The findings of this study demonstrate how diverse learning styles impact the engagement of LGBTQ+ 3rd and 4th-year psychology students. The results show that students are more engaged when teaching strategies align with their preferred learning methods, with visual and kinesthetic learners displaying the highest levels of participation. This highlights the importance of incorporating varied teaching approaches that address these dominant learning styles to maximize student engagement. The lower engagement in auditory-based activities, particularly group discussions, suggests that individual or passive auditory learning methods are preferred. These findings underscore the need for educators to adopt a more balanced approach in designing lessons that cater to different learning preferences, ultimately enhancing the overall learning experience.

These results support the research that tailored learning strategies significantly impact students' engagement and academic performance. According to Khan (2019), by aligning instructional methods with students' dominant learning styles, such as visualizing content or participating in hands-on activities, educators can foster deeper involvement and intrinsic motivation in students. The positive correlation between learning styles and engagement further reinforces the idea that when students can learn in ways that suit their preferences, their academic participation and success improve. This is particularly relevant for LGBTQ+ students, whose sense of belonging and emotional safety were found to significantly influence their engagement. By creating inclusive and supportive learning environments, institutions can foster a stronger connection between students and their academic work.

One limitation of the research is its focus on a specific group of psychology students from a particular academic year, which may limit the generalizability of the findings to other disciplines or student groups. Additionally, the study relies on self-reported data, which may introduce bias or inaccuracies in assessing students' engagement and learning styles. Future research could address these limitations by expanding the sample to include students from different fields and academic levels, as well as incorporating more objective measures of engagement, such as observational data or academic performance metrics. Exploring other external factors, such as socioeconomic status or cultural background, could also provide a more comprehensive understanding of the factors influencing student engagement. In conclusion, this research highlights the importance of aligning teaching strategies with students' preferred learning styles and creating inclusive learning environments to enhance engagement. The contributions of this study are significant, as they provide insights into how educators can improve teaching practices to cater to diverse learners, particularly marginalized groups like LGBTQ+ students. By addressing students' specific academic needs and promoting inclusivity, this research offers valuable recommendations for improving student engagement and academic outcomes across various educational settings. The positive takeaway is that adapting teaching methods to individual learning styles can lead to more effective, inclusive, and engaging learning experiences.

Recommendation

This study revealed the relationship between learning engagement and learning style among psychology students.

Therefore, the following recommendations are presented:

1. Students are encouraged to participate actively in class discussions and group projects, as these activities enhance memory and understanding. Utilizing visual learning tools, such as charts, graphs, and personalized study aids, can significantly improve holding information and comprehension. Furthermore, practicing peer teaching, where students explain concepts to each other, can enhance understanding and promote long-term memory.
2. Professors are encouraged to incorporate various teaching methods that combine auditory, visual, and kinesthetic approaches to accommodate different learning styles. Likewise, professors can enhance student engagement and motivation by connecting academic knowledge to real-life situations. Additionally, increasing opportunities for collaboration, such as group projects and discussions, can improve student engagement and memory.
3. The University should foster a supportive learning environment by enhancing academic and mental health support services. This approach will help lower student stress levels and promote active participation in learning. Providing professional development for faculty, especially in innovative teaching methods like project-based learning and technology integration, will lead to more engaging and practical courses.
4. Researchers should prioritize developing evidence-based interventions to enhance student engagement and memory, especially in professional programs such as psychology. By doing so, institutions can better address the challenges that affect student success, leading to improved outcomes. There is a pressing need to explore the influence of external factors, such as socioeconomic status, which can significantly affect a student's engagement and persistence in their studies. Investigating these external influences will provide a more nuanced understanding of how they contribute to or hinder memory efforts. A comprehensive approach that includes engagement strategies and an awareness of external factors will ultimately enhance educational effectiveness and equity across diverse student populations.
5. Future Researchers should provide customized treatments that target psychology students' particular difficulties in interacting with their courses to optimize the study's impact. By working with academic institutions, researchers may put these tactics into practice and assess their efficacy in real-world situations. Finding the main factors influencing learner engagement—like interactive teaching strategies, mentorship programs, and using technology to produce immersive learning environments—should be a top priority. It's also essential to set up regular feedback systems to improve these tactics over time.

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